to pivot about the contact point without actuating the opposite switch **78**. In essence, the touch pad **72** pivots about four different axis, although two of the axis are substantially parallel to one another. As shown in **FIG. 7A**, the touch pad **72** pivots about the contact point **104**A when a user selects button zone **74**A thereby causing the mechanical switch **78**A to be activated. As shown in **FIG. 7B**, the touch pad **72** pivots about the contact point **104**D when a user selects button zone **74**D thereby causing the mechanical switch **78**D to be activated. As shown in **FIG. 7C**, the touch pad **72** pivots about the contact point **104**C when a user selects button zone **74**C thereby causing the mechanical switch **78**C to be activated. As shown in **FIG. 7D**, the touch pad **72** pivots about the contact point **104**B when a user selects button zone **74**B thereby causing the mechanical switch **78**B to be activated.

[**0067**] **FIGS. 8-11** are diagrams of an input device **120**, in accordance with one embodiment of the present invention. **FIG. 8** is a perspective view of an assembled input device **120** and **FIG. 9** is an exploded perspective view of a disassembled input device **120**. **FIGS. 10 and 11** are side elevation views, in cross section, of the input device **120** in its assembled condition (taken along lines **10-10'** and **11-11'** respectively). By way of example, the input device **120** may generally correspond to the input device described in **FIGS. 5-7**. Unlike the input device of **FIGS. 5-7**, however, the input device **120** shown in these Figures includes a separate mechanical button **122** disposed at the center of the touch pad **124** having four button zones **126**A-D. The separate mechanical button **122** further increases the button functionality of the input device **120** (e.g., from four to five).

[**0068**] Referring to **FIGS. 9-11**, the input device **120** includes a circular touch pad assembly **130** and a housing **132**. The circular touch pad assembly **130** is formed by a cosmetic disc **134**, circuit board **136**, stiffener plate **138** and button cap **140**. The circuit board **136** includes an electrode layer **148** on the top side and four mechanical switches **150** on the backside (see **FIG. 12**). The switches **150** may be widely varied. Generally, they may correspond to tact switches. More particularly, they correspond to packaged or encased SMT mounted dome switches. By way of example, dome switches manufactured by APLS of Japan may be used. Although not shown, the backside of the circuit board **136** also includes support circuitry for the touch pad (e.g., ASIC, connector, etc.). The cosmetic disc **134**, which is attached to the top side of the circuit board **136** is configured to protect the electrode layer **148** located thereon. The cosmetic disc **134** may be formed from any suitable material although it is typically formed from a non conducting material when capacitance sensing is used. By way of example, the cosmetic disc may be formed from plastic, glass, wood and the like. Furthermore, the cosmetic disc **134** may be attached to the circuit board **136** using any suitable attachment means, including but not limited to adhesives, glue, snaps, screws and the like. In one embodiment, double sided tape is positioned between the circuit board **136** and the cosmetic disc **134** in order to attach the cosmetic disc **134** to the circuit board **136**.

[**0069**] The stiffener plate **138**, which is attached to the back side of the circuit board **136**, is configured to add stiffness to the circuit board **136**. As should be appreciated, circuit boards typically have a certain amount of flex. The stiffener plate **138** reduces the amount of flex so as to form a rigid structure. The stiffener plate **138** includes a plurality of holes. Some of the holes **152** are configured to receive the four mechanical switches **150** therethrough while other holes such as holes **154** and **156** may be used for component clearance (or other switches). The stiffener plate **138** also includes a plurality of ears **158** extending from the outer peripheral edge of the stiffener plate **138**. The ears **158** are configured to establish the axes around which the touch pad assembly **130** pivots in order to form a clicking action for each of the button zones **126**A-D as well as to retain the touch pad assembly **130** within the housing **132**. The stiffener plate may be formed from any rigid material. For example, the stiffener plate may be formed from steel, plastic and the like. In some cases, the steel may be coated. Furthermore, the stiffener plate **138** may be attached to the circuit board **136** using any suitable attachment means, including but not limited to adhesives, glue, snaps, screws and the like. In one embodiment, double sided tape is positioned between the circuit board **136** and the stiffener plate **138** in order to attach the stiffener plate **138** to the circuit board **136**.

[**0070**] Furthermore, the button cap **140** is disposed between the cosmetic disc **134** and the top side of the circuit board **136**. A portion of the button cap **140** is configured to protrude through an opening **160** in the cosmetic disc **134** while another portion is retained in a space formed between the cosmetic disc **134** and the top surface of the circuit board **134** (see **FIGS. 10 and 11**). The protruding portion of the button cap **140** may be pushed to activate a switch **150**E located underneath the button cap **140**. The switch **150**E is attached to the housing **132** and passes through openings in the stiffener plate **138**, circuit board **136** and cosmetic disc **134**. When assembled, the actuator of the switch **150**E via a spring element forces the button cap **140** into an upright position as shown in **FIGS. 10 and 11**.

[**0071**] The housing **132**, on the other hand, is formed by a base plate **142**, a frame **144** and a pair of retainer plates **146**. When assembled, the retaining plates **146**, base plate **142** and frame **144** define a space **166** for movably restraining the stiffener plate **138** to the housing **132**. The frame **144** includes an opening **168** for receiving the stiffener plate **138**. As shown, the shape of the opening **168** matches the shape of the stiffener plate **138**. In fact, the opening **168** includes alignment notches **170** for receiving the ears **158** of the stiffener plate **138**. The alignment notches **170** cooperate with the ears **158** to locate the touch pad assembly **130** in the X and Y plane, prevent rotation about the Z axis, and to establish pivot areas for forming the clicking actions associated with each of the button zones **124**A-D. The base plate **142** closes up the bottom of the opening **168** and the corners of the retaining plates **146** are positioned over the ears **158** and alignment notches **170** thereby retaining the stiffener plate **138** within the space **166** of the housing **132**.

[**0072**] As shown in **FIGS. 10 and 11**, the frame **144** is attached to the base plate **142** and the retaining plates **146** are attached to the frame **144**. Any suitable attachment means may be used including but not limited to glues, adhesives, snaps, screws and the like. In one embodiment, the retaining plates **146** are attached to the frame **144** via double sided tape, and the frame **144** is attached to the base plate **142** via screws located at the corners of the frame/base